Center for Integrated Space Microsystems (CISM)
An Advanced Micro-Avionics Center at JPL

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During the Summer of 1996, I was directly involved in a series of briefings to the NASA Administrator, Mr. Dan Goldin, to discuss what should NASA's role be in the area of advanced microelectronics, and advanced computing technologies. As a direct result of these briefings, NASA has initiated a new (start in FY 98) Deep Space Systems Development Program (also known as X2000) to develop a series of advanced spacecraft systems for future deep-space exploration. Moreover, JPL has established a new Center of Excellence called Center for Integrated Space Microsytsems (CISM) which will provide the necessary technology development focus of advanced micro-avionics systems, for future deep-space and Earth Orbiting missions. As the Center Lead for CISM, I will briefly outline the on-going technology development and as well as research projects. CISM has an 'investment portfolio' that addresses both near-term, long-term, and 'far-out' research. The near-term focus is on miniaturized avionics architectures for deep-space missions flying in the 2003-2007 time frame. The long-term focus is on the development of *Systems On A Chip* technologies, and the 'far-out' topics include: Quantum Computing, Quantum Dots, Biological Computing, Biomimetics, Evolvable Hardware, and other topics. At the end of my talk, I will address opportunities for collaboration with CISM, as well as some specific research topics that I plan to lead in the area of design for Systems On A Chip architectures.

short-term goals
long-term goals